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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,955	08/08/2001	Una Quinlan	3Com-92 (2764WSDUSP)	2012
7265	7590	09/08/2004	EXAMINER	
MICHAELSON AND WALLACE PARKWAY 109 OFFICE CENTER 328 NEWMAN SPRINGS RD P O BOX 8489 RED BANK, NJ 07701			BONZO, BRYCE P	
			ART UNIT	PAPER NUMBER
			2114	
DATE MAILED: 09/08/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/924,955

Applicant(s)

QUINLAN, UNA

Examiner

Bryce P Bonzo

Art Unit

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) \*
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **NON-FINAL OFFICIAL ACTION**

### ***Status of the Claims***

Claims 12-17 are rejected under 35 USC §112.

Claims 1-3, 5, 6, 9, 10-12 and 15-17 are rejected under 35 USC §102.

Claims 4, 7-8, 13 and 14 are rejected under 35 USC §103.

### ***Rejections under 35 USC §112, second paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 12-17 all recite a level or sublevel of level B1 in the OSI protocol stack. The Examiner asserts the OSI model is describe in either a 5 or 5 layer/level configuration in which the layers/levels are described either by consecutive numbers from 1 to 5 or 7, or by a standardized for the functions the level provides (physical/media, data/link, network, transport, session, presentation, application). It appears to the Examiner that Applicant has attempted to claim the data/link layer or sub layers there of. B1 has no standardized meaning in the networking arts. Upon review of the drawings, it appears Applicant is impermissibly claiming a figure number. Applicant is

Art Unit: 2114

required to clearly set forth to what in the OSI stack the claim is being limited. For purposes of examination, the B1 referenced in the claims is being treated as the data/link layer.

***Rejections under 35 USC §102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-3, 5, 6, 9, 10-12 and 15-17 are rejected under 35 U.S.C. 102(a) as being anticipated by McRobert (European Patent Application No. 99301477).

As per claim 1, McRobert discloses:

A method of diagnosing, in a network comprising two devices connectable by a link, the type of failure of the connection between the devices, said method comprising

connecting the two devices together at least one of the devices including a plurality of registers (page 2, lines 17-18), each register being adapted to store data about one or more types of said failure (Figure 1, item 48),

running an auto-negotiation sequence (figure 2, item 59),

Art Unit: 2114

detecting said failure and passing signals relating to that failure to the relevant register(s) (figure 2, item 64),

interrogating the or each register (figure 2, item 78), and

determining the type of said failure (page 5, lines 26-38).

As per claim 2, McRobert discloses:

the step of determining the data in the relevant register(s) (page 5, lines 26-38) and from said data, indicating the type of said failure and/or a proposed course of action (page 5, lines 29-31).

As per claim 3, McRobert discloses:

there is provided a visual display unit and the step of determining the type of said failure includes the step of determining the data in the relevant register(s) and from said data, indicating the type of said failure and/or a proposed course of action on said visual display unit (Figure 2, items 82).

As per claim 5, McRobert discloses:

in which said failure comprises a bit/word alignment failure (page 3, lines 57-58 disclose this error via the properties of the error rather this proper name for this error).

Art Unit: 2114

As per claim 6, McRobert discloses:

said failure comprises a loss of synchronisation during auto-negotiation (page 3, lines 55-58 describe the monitoring and error reporting of synchronization related problems).

As per claim 9, McRobert discloses:

said failure comprises an auto-negotiation protocol (repeated) restart due to initiation of a "break link". Figure 2 is the process of failing auto-negotiation and restarting the process when the link is broken at the current set speed, specifically when blocks 76 and 63, loop back to block 59.

As per claim 10, McRobert discloses:

the steps of interrogation and of determining are controlled by a program on a device in the network (Figure 1, item 34).

As per claim 11, McRobert discloses:

the steps of interrogation and of determining are controlled by a program on one of said devices (Figure 1, item 10).

As per claim 12, McRobert discloses:

Art Unit: 2114

said detection step is carried out by signal detector logic in level B1 of the OSI protocol stack of one of said devices (page 3, lines 37-47: Ethernet operates at the data link layer).

Art Unit: 2114

As per claim 15, McRobert discloses:

said signal detector logic in a sub level of level B1 of the OSI protocol stack of one of said devices includes a bit error counter to count symbol errors (Figure 2, items 72, 64, 74, 76, and 78).

As per claim 16, McRobert discloses:

said bit error counter is set at regular intervals, to provide bit error rate calculations (Figure 2, item 72: constant rate decrementing and error counting is an error rate by definition).

As per claim 17, McRobert discloses:

said signal detector logic in a sub level of level B1 of the OSI protocol stack of one of said devices includes an auto negotiation state machine which deals with the exchange of one or more pages of information between the two devices, handles link restarts by the link partner, and reports the link state and hangs (Figure 2 is the flow chart delineating this process).



***Rejections under 35 USC §103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 7 and 8, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over McRobert (European Patent Application No. 99301477).

As per claim 4, McRobert does not explicitly disclose:

said failure comprises a loss of light.

McRobert does disclose the use of Ethernet standardized protocols. Although the McRobert describes the use of 10 and 100 Mbit Ethernet on twisted pair, there are other Ethernet standards which work in substantially the same manner for optical systems. Official Notice is taken that it is well known to those skilled in the art of computer networking that Ethernet implementation for optical systems exist and that these account for loss of light. Loss of light is a well known problem in optical systems and has associated error protocols, which replace the loss of voltage protocols in other Ethernet systems. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate optical variants of the Ethernet protocol into the system of McRobert and thereby

Art Unit: 2114

account for loss of light, thus creating a system which allows to reliably operate at optical transmission speeds.

As per claims 7 and 8, McRobert does not explicitly disclose:

said failure comprises an auto-negotiation protocol hang during base page exchange.

said failure comprises an auto-negotiation protocol hang during next page exchange.

McRobert does disclose monitoring for errors during an auto-negotiation including having values go out of sync. Hanging page exchange typically result from out of sync nodes. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of McRobert which monitors the auto-negotiation process for faults to monitor for hanging page exchanges, thus increasing its ability to detect faults during the auto-negotiation process and making the system more reliable.

As per claim 13, McRobert discloses:

in which the signal is detected by a transceiver and the detector logic in a sub level of level B1 of the OS protocol stack checks for an adequate power level received at the transceiver (page 4, ¶¶19-22 describe monitoring a signal at a receiver for power and signal characteristics, in the case of McRobert electrical as the data link layer is operating which standard Ethernet twisted pair).

Art Unit: 2114

McRobert does not disclose:

in which the *link is a fibre optic signal and light* is detected by a transceiver and the detector logic in a sub level of level B1 of the OS protocol stack checks for an adequate *power level on the light* received at the transceiver. Official Notice is taken that it is well known to those skilled in the art of computer networking that Ethernet implementation for optical systems exist and that these account for loss of light. Loss of light is a well known problem in optical systems and has associated error protocols, which replace the loss of voltage protocols in other Ethernet systems. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate optical variants of the Ethernet protocol into the system of McRobert and thereby account for loss of light, thus creating a system which allows to reliably operate at optical transmission speeds.

As per claim 14, McRobert discloses:

in which said signal detector logic in a sub level of level B1 of the OSI protocol stack of one of said devices deals with receive synchronisation so as to check the received signal frequency, encoding integrity and correct alignment of received signals (Page 4, ¶19-22).

McRobert discloses:

in which said signal detector logic in a sub level of level B1 of the OSI protocol stack of one of said devices deals with *clock recovery, comma alignment* and receive synchronisation so as to check the received signal frequency,

Art Unit: 2114

encoding integrity and correct alignment of received signals. These two italicized features are well known problems with well known solutions in the computer networking arts. Correcting these problems increases the reliability of any system the solutions are incorporated in. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate *clock recovery and comma alignment* into the system of McRobert, thereby increasing the fault tolerance characteristics of the system.

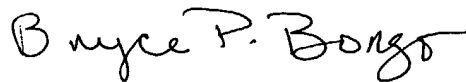
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryce P Bonzo whose telephone number is (703) 305-4834 or upon moving to the new facilities in Alexandria (571) 272-3655. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (703) 305-9713 or upon moving to the new facilities in Alexandria (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2114

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bryce P Bonzo  
Examiner  
Art Unit 2114

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